

Monitoring of costs and creation of calculations in business

ANNA ŠATANOVÁ

Department of Business Economics, Technical University, Zvolen, Slovakia

Abstract: *Monitoring of costs and creation of calculations in business.* The aim of this paper is an application of selected methods of cost calculations in the analyzed company. The proposals are based on calculation system of the company; it means the used methods and types of calculations, which should contribute to more effective monitoring and evaluation of costs. We suggest the application of the stair-step calculation of variable costs and the calculation of costs according to activities (ABC method). Advantages and disadvantages of the selected calculation methods will be presented in conclusion of this paper.

Keywords: variable costs, calculation, calculation methods, ABC method, business calculations, calculation system

INTRODUCTION

Building of the well-functioning, profitable company is a very laborious and lengthy process. The stable, successful evolution is achieved hardly, but it can be lost very easily (Sedliačiková, 2005). In the past in centralized economy, many of the principles of corporate governance were implemented; covering calculations, planning, monitoring and evaluation of deviations. In the calculations, methods and procedures based on the system of full calculations were used; and in many companies have still been used. In the market economy, it seems to be very important and necessary to use the methods and processes based on the system of calculations of incomplete (variable) costs and calculations by activities that can contribute, by significant degree, to development of the effective control-oriented management system.

MATERIAL AND METHODS

According to the conversion of pumping and recovery of the costs from the achieved price of a performance there are distinguished: *the systems of calculating with the full costs* (absorption costing) and *the systems of calculating with imperfect* (variable) *costs* (incomplete costing). In addition to these systems of calculating, in practice, there are still used also the others, such as *the method of calculating by activities* (Activity Based Costing).

The traditional *system of the full calculations* assigns all incurred costs (fixed + variable) to the cost bearers. The difference between the sales and the cost is *the profit*. The calculation systems which are based on a particular group of costs and do not take into account all cost items, can be called *a system of calculation of incomplete variable costs*. The system of calculation of cost based on the knowledge of variable costs (VC_k) k-category of products and the price of them (P_k). The term “**COMPUT MARGIN**” (CM_k) is being introduced.

$$CM_k = P_k - VC_k \quad [€] \quad (1)$$

When the previous indicator is divided by the price per unit of production (P_k), we get *the factor of coverage, the percentage of coverage* - known as **PVCM**). It is *a relative expression* of this indicator.

In contrast with the previous methods, which assign the costs directly to the products, by ABC methods, in the first phase, *the resources are allocated to the specific activities* (the

first allocation) and in the second phase, costs of activities are assigned to products (the second allocation). The resources, therefore, do not enter to the product directly, but through a very important article of activities (Figure 1).

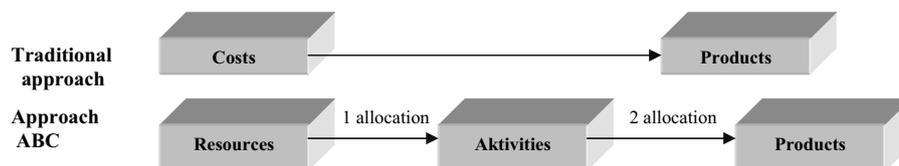


Figure 1 The approach of traditional methods and the ABC method in assessing costs

RESULTS AND DISCUSSION

Our task will be to compare the current system of calculating i.e. calculation of full costs in the selected woodworking enterprise with the proposed system of calculating of incomplete (variable) cost and with the ABC method of calculating.

In the next section, we present planned calculations for selected products in the woodworking enterprise during the closed accounting period established in the system of *absorption calculating*, respecting the structure of production and feasibility part of used calculation formula. The data presented in Table 1 are based on documents published in literature (*Sedliačiková, 2003*) and they were modified for needs of the system of calculating of incomplete cost.

Tab. 1 The absorption calculating in selected company

Products	Implementation (€)							
	Implementation costs	Marketing costs	Admin. expenses	Costs outside the division	Full costs of implementation	Profit(+) Loss (-)	Sales from implementation	Profitability of sales
Lumber beech-expedition	71 565 661	8 240 164	1 385 732	1 379 211	95 032 185	-7 333 345	87 698 840	- 8,36
Lumber beech – own consumption								
Sleepers expedition	7 336	1 191	2 003	199	10 729	-4 243	6 486	-65,42
Exported beech blanks and prisms beech	4 641 059	393 455	661 446	65 855	6 019 847	-2 751 905	3 267 942	-82,21
Heart lumber beech	643 477	63 866	107 366	10 690	825 399	-441 160	384 239	-114,81
Sleepers beech								
Crossover beech								
Sleepers imported								
Lumber poplar								
Lumber spruce/fir								
Second. prisms beech	138 773	45 614	76 682	7 635	265 993	-152 357	113 636	-134,1
Chips								
Together	77 246 044	8 744 290	14 700 229	1 463 590	102 154 453	- 10 683 010	91 471 143	-11,68

Based on the results of calculating of full cost, we can say that all five products made outside the enterprise will be loss. This is due to the fact that this group of products bears the costs incurred in marketing, administration, and disproportionately high costs formed outside the division. Therefore it is necessary to take certain measures in this area. One of the possibilities is to exclude the products with the lowest profitability from the production program, eventually to increase their selling price. Another option is to seek opportunities for savings of expected costs. The decisions taken as a result of profit per unit of production are not, for the purpose of managing, correct and justifiable. Therefore it is necessary to establish the calculation of incomplete costs. The complete calculation, for needs of controlling the costs, is inappropriate because it also calculates proportionally the fixed costs into products by the overhead charge. This fact creates an uncertainty in the distribution of costs. The incomplete calculation is appropriate because it allows the correct planning, management and control within the corporate planning and controlling (Table 2).

Tab. 2 The incomplete calculation per groups of products – inputs

No.	Group of products	Products	VC €/m ³	Production m ³	KP together (€)	KP per groups of products (€)
1.	Beech	Lumber beech – expedition	5 444,72	12 820,0	17 903 340,4	31 508 549,2
		Lumber bch – own consumption	2 609,30	34 532,1	16 517 321,8	
		Sleepers exported	3 821,12	1,8	-592,5	
		Sleepers impregnated	3 280,58	57,3	27 011,5	
		Exported beech blanks and prisms beech	8 670,21	580,0	- 1 760 783,2	
		Heartt lumber beech	7 142,00	99,4	-325 675,9	
		Secondary prisms beech	668,39	72,4	67 508,6	
		Crossover beech	3 748,45	44,4	20 966,4	
		Sleepers beech	3 684,68	2 263,4	1 069 472,1	
	Chips	756,18	15 417	-2 010 020,0		
2.	Poplar	Lumber poplar	769,91	12,9	6 108,1	6 108,1
3.	Spruce/Fir	Lumber spruce/fir	472,55	40,2	18 978,9	18 978,9

From the results of the previous table it is clear that no group of products has the total covering contribution negative. In the group of beech products where some products have the negative covering contribution it can be achieved the total positive covering contribution of € 31,508,549. From the production schedule is not possible to eliminate chips (despite the negative covering contribution) because they form a starting material utilized in other areas of the enterprise production (e.g in the production of chipboard) and they represent an efficient use of waste in the production of other products. For other products achieving the negative covering contribution, we accent to review the prices of products (mainly lumber and exported blanks and prisms) once again.

Using the ABC analysis of variable costs and sales, we found that the group of product A: beech lumber, intended both for their own consumption but also for the expedition, has the decisive influence in the analysis of variable costs. Following is the group of products B: chips and beech sleepers and exported beech blanks and prisms. All other products were included in group C. The covering contribution of the product group A reaches the value € 34 420 662. The negative covering contributions of the product groups B (€ - 2 701 331,1) and C (€ -185 694,9) is due to already mentioned group of products, but in terms of the total covering contribution to the operation screen of the division they have no significant effect.

Tab. 3 The incomplete calculation per groups of products - ABC analysis

Group of products	Products	VC together (€)	Sales (€)	KP together (€)	KP per groups of products (€)
A	Lumber bch – own consumption	90 104 716	106 622 038	16 517 321,8	34 420 662,2
	Lumber bch – expedition	69 795 500	87 698 840	17 903 340,4	
B	Chips	11 658 026	9 648 006	-2 010 020,0	- 2 701 331,1
	Sleepers beech	8 339 945	9 409 418	1 069 472,1	
	Exported beech blanks beech	5 028 725	4 641 059	- 1 760 783,2	
C	Jadrové lumber beech	709 914	384 239	-325 675,9	- 185 694,9
	Sleepers impregnated	187 841	214 853	27 011,5	
	Crossover beech	166 431	187 398	20 966,4	
	Lumber spruce/fir	110 306	129 285	18 978,9	
	Secondary prisms beech	48 391	115 900	67 508,6	
	Lumber poplar	9 932	16 040	6 108,1	
	Sleepers exported	7 079	6 486	-592,5	

The ABC method is very difficult and exacts large scale and detailed survey data. Data volume increases with the number of assessed activities and their relationships to some part of the sets of final products. Thus the success of the method depends on the quantification of the share of dependent and independent costs on the volume of transferred activity. ABC analysis can be also applied to monitor different types of fixed costs of product, group of products, operation, division or enterprise.

CONCLUSION

The application of the selected methods of calculations of costs in the spotted enterprise is based on the calculation system of enterprise. We propose the application of calculations of variable costs and calculations of costs according to activities (ABC method). Also advantages and disadvantages of application of selected methods of calculation are listed.

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Streszczenie: *Monitoring kosztów i tworzenie rozliczeń w biznesie.* Celem tej pracy było zastosowanie wybranych metod do analizy kosztów w przedsiębiorstwie. Propozycje bazują na systemie księgowym firmy, znaczy to że używają metod i typów wycień, które powinny przyczynić się do efektywniejszego monitorowania i oceny kosztów. Zasugerowano metodę ABC, wady i zalety tej metody są opisane we wnioskach.

Corresponding author:

prof., Ing. Anna Šatanová, CSc.
Department of Business Economics
Faculty of Wood Science and Technology
Technical University in Zvolen
T. G. Masaryka 24
960 53 Zvolen
Slovakia
mail: satanova@vsld.tuzvo.sk
phone: 00421-045-5206428